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ORIGINAL DEPARTMENT.

Communications.

ANATOMY

IN ITS RELATIONS TO

MEDICINE AND SURGERY.

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No. 26.

INTRA-ORBITAL REGION — (*continued.*) — The superior straight muscle seems to possess an influence over the eyeball, under certain circumstances, which it is difficult to understand on mere anatomical grounds. I allude to the turning up of the eye so as to conceal the cornea beneath the lid, leaving only the inferior circumference, or the white of that portion of the ball exposed, as in fainting, sleep, or in the article of death. The idea entertained by Sir Charles Bell, that this resulted from the organ being given over to the unrestrained action of the oblique muscles, is not tenable when the nerve distribution is considered. A most beautiful, devout and poetic sentiment has originated in the observation of this position of the eyes in dying children.

"Vulgo aiunt hos tennellos suam patriam respicere."

The expression arising from the position, however painful and distressing to bystanders, is not one of suffering, but insensibility; and it will prove a source of great satisfaction and relief to those who may be called to witness the last struggles of departing friends, to know that such is the case. It would seem to be an intermediate condition, in which nature kindly draws around the soul the crysalis curtains of that transitional sleep which merges mortality into immortality. There is also a natural theology in this position of the eye, which the coldest objections of infidelity cannot gainsay. All nations, civilized or barbarous, in the devout exercises of the mind, intuitively turn the eyes upward, as an involuntary recognition of a God above, and the genius of their sculpture and painting recognizes the same sentiment whenever its holier conceptions have been embodied in marble or transferred to canvas. In fish, we have the same number and arrangement of the ocular muscles as in man, except that there is no pulley for the superior oblique. The same distribution of nerves also exists.

When the straight muscles all act in equal harmony and force, they restrain the eye toward the bottom of the orbit; therefore, when the soft padding of fat which is packed around the ball is removed by wasting disease, they will draw it back, thus producing the hollow orbit and sunken eye. I can recall a case in which this fat, having in a great measure been removed, a most distressing painful condition resulted from the muscles dragging the eye forcibly back against the nerves at the summit of the orbit. A section of some of these muscles would naturally suggest itself in such a case.

Loss of muscular power, or the division of more than one of them, may be followed by inordinate prominence of the eye. The connection between very prominent eyes and disease of the heart, either functional or organic, has not been overlooked by writers, and is generally associated with anemia; and as this condition of the blood is favorable to serous exudation, it would seem most likely that

effusion into the ocular fascia causes the protrusion.

If there be an undue activity or diminution in the power of one of the straight muscles, a mal-direction of the eye will follow, giving rise to strabismus, or squint. Generally speaking, the converging variety is most common. Though in many of the cases which come under the observation of the surgeon, both eyes are turned in, yet the defect belongs but to one, the movements of the lateral straight muscles of each eye being so nicely associated as to give a similar direction to each. From this circumstance, it often becomes a matter of some difficulty to determine positively which is the squinting eye. There are several means employed to decide this, which it is not in place here to present, but it will be found in most cases that the voluntary control over the sound eye, in the direction opposite to the squint, will be greatest; that is, the abduction of the sound eye will be greatest in converging squint. These deviations of the eye from the antero-posterior axis of the orbits, are known to take place in children during dentition, and also when suffering from verminous irritation. The explanation will be satisfactory, when we remember that the same pair of nerves (5th) which supply the gums with common sensibility, confers the same endowments upon the muscles of the orbit; and that the pneumogastric nerves distributed in part to the stomach, have communications with the fifth pair. The removal, therefore, of the exciting cause will sometimes be followed by a removal of the deformity, without resorting to an operation. An opacity of the cornea will often beget a squint, as a remedy for the mechanical obstruction to the entrance of the visual rays. To attempt any alteration in the direction of the ocular globe, in such a case, would be obviously improper.

Excessive use of the organ may develope strabismus, simply by producing disordered sensibility. As the vein and nerves pass out and in to the orbit through the same opening, (*sphenoidal fissure,*) any cause which will embarrass the circulation of the former, as tumors or cerebral congestion, may prove sufficient by pressure against the latter, to induce strabismus.

The ocular fascia constitutes a loose capsule, in which the eye can roll with perfect freedom; when inflamed to any extent, it may contract attachments which will interfere with these movements. Purulent collections, when they form in it, may be detected by their pressing forward the conjunctiva where it is reflected from the lids to the eyeball, so as to form a tumor between the two; and here would be a proper place to make a puncture for evacuation.

A non-vascular tumor is occasionally seen at this same situation, which is accounted for by the effused fluid being exterior to the ocular fascia, in which the blood-vessels run between it and the conjunctiva. This fascia, which forms sheaths for the muscles, is much more closely connected to their fleshy than to their tendinous portions. That the divided ends of the muscle may retract, it will, therefore, be necessary to incise the deep layer of the fascia, otherwise it will continue to bind them together, and counteract the correcting power of the one antagonizing. This important fact has been well pointed out by Malgaigne, in his *Manual de Medicin Operatoire.* To accomplish this with certainty, the hook should be passed beneath the muscle at a point posterior to the tendon. There is another reason for the division being made well back, as the tendons of the straight muscles blend at their margins, and thus becoming so expanded that the instrument will be more likely to transfix than to raise one in its completeness. The fibres remaining undivided, will act as checks, and defeat the cure.

The many blood vessels which run in this sub-conjunctival tissue will offer an objection to the submucous division practiced by some surgeons, in consequence of the extravasation of blood.

Persons under the influence of intoxicating drinks present us with a very singular and ludicrous expression from the levator palpebræ losing its power to sustain the eyelid, in consequence of which, the individual endeavors to raise it by a forcible contraction of the

occipito frontalis muscle which, wrinkling the forehead, and taking in connection the facial alteration gives the debased and perplexed air to the countenance.

Lachrymal Gland.—This organ is situated within the upper and outer part of the orbit, and partially divided into two unequal portions, the greater one lodged in the lachrymal fossa under the external angular process of the frontal bone and attached by fibrous bands to the periosteum; the lesser part against the posterior or attached margin of the upper lid. The entire gland is oblong, and about the size of an almond. Its under surface is concave and adapted to the convexity of the eye resting on the upper and external straight muscles. The 5th pair of nerves distributes branches to it. This nerve, as well as the others in the orbit have many communications with the organic or sympathetic system, and, of course, carry such branches with them in their several distributions. Between the optic nerve and the external straight muscle is situated the *ophthalmic* ganglion, a centre of sensory, motor, and sympathetic filaments. The artery which conveys blood to the gland is the *lachrymal*, the first and largest branch of the ophthalmic, and which follows the external straight muscle. The *lachrymal secretion* in its chemical constitution is similar to the serum of the blood. It contains chloride of sodium among its other constituents.

The secretion is conveyed to the eye by several small ducts, which open upon the upper and outer part of the conjunctiva on a line where it is reflected upon the eyeball, and is afterwards distributed over the surface of the eye by the movements of the lids.

Practical Observations.—As the lachrymal glands are intended to furnish a moistening liquid to the eyes, and as nature never confers any unnecessary organs upon an animal, we may expect to find them absent in such creatures as inhabit the water. Accordingly fish possess no lachrymal apparatus. These parts first appear in the higher reptiles. It should not be overlooked that the conjunctiva possesses all the elements of a gland, and while its special function is not that of lubricating the eye, yet it nevertheless does contribute something to this end. Disease sometimes obliterates the lachrymal canals or sac, and then the secretion of the gland will overrun the lids and excoriate the cheeks, becoming a source of great annoyance. Or disease may attack the lachrymal gland itself, and its removal under either circumstance becomes desirable. The function of the organ in such cases, will be substituted to a considerable degree by the conjunctiva.

The position of the gland will require for its exposure when extirpation is demanded, the simple detachment of the superior eyelid from the upper and outward margin of the orbit. The conjunctiva need not be disturbed, as the gland is posterior to its reflection. The constriction in the organ giving it a bi-lobed appearance should be recollected, otherwise only one portion may be removed, under the supposition of its being the whole gland. Of course, if a small portion even should be left, the secretion will continue. The lachrymal artery, being of considerable magnitude, may, in such operations, be expected to pour out considerable blood, but is quite accessible to the ligature.

The lachrymation attending ophthalmia is explained by the conjunctiva and gland being supplied with nerves from the same pair (5th.) The flow which follows the contact of a foreign body with the surface of the eye depends upon the same communications. This discharge is salutary by way of unloading the vessels of the orbit.

Irritation of the nasal mucous membrane will excite tears also, because the nasal nerve is derived from the fifth pair. Thus follow the watery eyes in influenza.

Cases occur in which there is a complete arrest of the secretion. The eye loses its brilliancy; becomes dry and inflamed, there being no fluid to wash away such foreign particles as may become attached to its surface. The causes which bring about this condition are such as exert a great depressing influence over the nerve centres, or by pressure induce a local paralysis. The secretion of these glands, it is well known, is very much under the influence

of emotional causes. Thus tears may flow as marks of grief—

"What means that hand upon that breast of thine?
Why holds thine eye that lamentable rheum,
Like a proud river peering o'er his bounds?"

Or there may be a degree of grief so profound that these fountains dry up, and the eyes assume the stolid vacancy of an Ophelia, a grief something like that which the great poet puts in the mouth of Hamlet:

"It is not alone my inky coat * * *
No, nor the fruitful river in the eye * * *
But I have that within which passeth show."

Joy may be followed by a discharge of tears, and when either under the influence of grief or joy the glands pour forth this secretion. The influence is most beneficial to the system in relieving that peril and insufferable agony arising from pent up feeling. A few such drops might have unloaded and saved the great heart of the patriotic old door-keeper, who fell dead with joy on receiving the news of the surrender of Cornwallis.

The tears which suffuse the eyes in excessive laughter serve to unload the intra-orbital vessels, which become engorged with blood under this emotion.

The emotions are usually referred to the breast, probably from the participation of the heart in their phenomena, and their effects on the lachrymal gland can only be explained by the connection which exists between the fifth and the ganglionic class of nerves. The ducts of the gland may become obstructed, and be dilated into a tumor something like those of the sublingual glands.

In the use of collyria containing lead or silver, especially where there is a breach in the tunics of the eye, as in corneal ulcers, the composition of the tears must not be forgotten, as insoluble deposits of the chloride of lead or silver may follow. The briny taste of the tears is due to the salt which they contain. An allusion to this constituent is made in Hamlet's soliloquy on the marriage of his mother—

"'Within a month!
Ere yet the salt of most unrighteous tears,
Had left the flushing in her galléd eyes.'

Lachrymal calculi are met with occasionally, and which must be referred to disorder of the fifth pair of nerves affecting the chemistry of the gland, just as injuries of the spinal marrow may determine a urinary calculus.

Operation and Treatment for Strangulated Femoral Hernia.

By E. C. Ellet, M. D.,
Of Bunker Hill, Illinois.

On Sunday, 25th March, 1860, I called to see Mrs. McK., a hard-working woman of good constitution, aged fifty years. Found her suffering with all the symptoms of strangulated femoral hernia. Hard, elastic tumor in right groin, about the size of a walnut; very tender to the touch; which she stated had been enlarging for the last twenty-four hours.

Patient informed me she had been aware of the existence of this infirmity for over six years; but, as she had never experienced any serious trouble from it until the present occasion, had kept the secret to herself.

At first, I tried the usual means for reduction by the gentle application of the taxis, placing the patient meanwhile in every position that offered to facilitate that end; failing in this endeavor, I spread a plaster of extract of belladonna, (a common resort with me in such cases,) and covered the tumor with it—directing it should be respread every twelve hours. For the pain and sick stomach, (vomiting had not yet begun,) I prescribed small doses of sulphate of morphia, and occasional injections per anum of warm water. All proving useless—constitutional symptoms fast setting in, together with proper stercoraceous vomiting, the skin over the tumor having assumed quite an erysipelatous tint—I determined by noon of Tuesday to operate.

Sending for my partner, Dr. E. Howell, our patient's bed was placed near the door, (our only chance for light,) and, being fairly placed under the influence of chloroform by Dr. H., I made the usual incisions, cautiously exposing the peritoneal sac to full view. Feeling for the point of stricture exterior to sac, and considerably enlarging it with the

bistoury's point, I made frequent but ineffectual efforts to reduce the tumor. Being obliged to open the sac, I discovered the space within filled with omentum, which I followed with the finger to the point of escape, which was readily dilated with a very trifling further use of the knife. Before reducing, I cut away some portions of the omentum that seemed gangrenous. Carefully returning the residue, the wound was closed with sutures and straps in the usual way, and a properly adjusted compress and bandage applied.

For three or four days, the patient evidently suffered with peritoneal inflammation; but that kindly subsiding, resolution was rapid, and she is at this time, sixteen days after the operation, quite recovered and able to be about the house.

I will take this occasion to mention, as I think it a point of no little value, that, in all those cases of strangulated hernia where the symptoms are not sufficiently urgent to demand immediate operation, much good may be effected in the way of relief of pain to the patient and gradual reduction of the tumor, by the constant application of extract of belladonna, either in the form of ointment well rubbed in and frequently applied, or spread pure in the shape of emplastrum; this, together with rest in the recumbent position, carefully regulated diet, and occasional injections of warm water per anum, will, in the vast majority of cases, be sufficient to give relief in a few days.

Out of a great many cases of strangulated hernia which have come under the observation of my partner and myself, we have only met with two in the space of twenty years, in our own practice, that required operation, and we have frequently failed with the taxis.

In conclusion, I will state, the result of my experience goes decidedly against the administration of purgatives, in every form, when strangulation exists.

The Arabs perform the following operation for the relief of headache: They shave the head and make several incisions about the sutures of the cranium, letting the blood run until the head be relieved.

Illustrations of Hospital Practice.

JEFFERSON COLLEGE.

APRIL 11TH.

Clinic of Professor Gross.

(Reported by Dr. W. P. Moon.)

Venereal Warts.—This patient is under treatment and doing well, notwithstanding he is not careful as to cleanliness. This is a very important point. The disease is produced by impure connection. The case does not require any constitutional treatment. The local remedy, according to Professor Gross' experience, is the application of chromic acid. This acid acts, not only as an escharotic, but also as a sorbefacient, causing shrinking and shriveling of the warts, and thereby preventing any further growth. It should be applied very gently once every third day, the affected surfaces being kept apart in the interval with dry lint.

Coxalgia—Hip-joint Disease. — Two cases: one incipient, the other advanced; both children from two to three years of age. In one of these, (the incipient,) the disease had been existing for three months, while in the other it was said to have been noticed only one month previous. The latter had been treated by two physicians, who had entirely overlooked the seat and nature of the complaint, referring it to the knee, because the pain was there, and applying their remedies accordingly.

Dr Gross, exhibiting these patients, pointed out the diagnostic signs, remarking that he could not see how any intelligent practitioner could mistake the case; nor did he think such an one ever did. The child becomes lame, and complains of pain, which is always referred to the knee. Why there, we cannot tell. Damp weather and fatigue increases it. In the night, he starts, awaking as if affrighted, screaming with pain.

The difference in the two sides is invariably well marked, and cannot be mistaken. *Always*, when this disease is suspected, strip the patient—as was done here—observe the want of rotundity of the nates, and the loss of the crease below the gluteal muscles on the affected side; while at the seat of the disease, just behind the trochanter, the hip is flat and shrunken. There is an *apparent*, but not actual, shortening of the limb, which is also much thinner than the other, and the child stands on the well leg. Percussion upon the knee, flexing the leg of the affected side, will cause pain at the hip-joint.

As to the treatment, Dr. Gross said it was evident that the actual cautery was the best means of cure, combined with appropriate constitutional remedies. The disease depends upon a strumous habit, which is frequently seen in enlarged glands of the neck,

and other evidence of morbid action. Tonics and alteratives should be given, with a nutritious diet, in case the little patient evinces signs of general debility. Of these, quinine and iodide of iron are the best. The cautery was applied to the hip-joint, to be followed by water-dressing and poultices, and absolute rest enjoined, accompanied with the above constitutional treatment. In six or eight days, the eschar will slough off, leaving a large sore, furnishing a free discharge, which should be maintained for many months.

Scrofula.—This patient, a girl two years old, carries upon her countenance the characteristic marks of the disease. It is strumous or tuberculous. The case cannot be mistaken, for the child is completely saturated with it. Its general appearance indicates a strumous habit, fair skin, blue eyes, light hair, tumid belly, and small, shrunken legs; besides, there is great enlargement of the glands of the neck. The patient cannot endure a strong light; she has photophobia, light-madness, or intolerance of light. This is owing to a morbid sensibility of the retina. In the reign of Queen Anne, this disease, called King's Evil, was supposed to be cured by the royal touch, and many availed themselves of this means as a remedy, but it fell into disuse in the time of Cromwell.

Treatment.—Dr. Gross ordered in this case,

℞ Pil. hydrarg. gr. iiss
Sodæ bicarb. gr. ij
Tr. opii. gtt. iij

To be taken every other night; nutritious diet; wash the body daily with soap and warm water, and rub dry. Take the child out every fine day, but keep her at home in damp weather; dress warm with flannel, changed two or three times a week. With the above, combine a tonic, alterative, and soothing course.

℞ Quin. sulph. gr. ¾.
Ferri iodidi, gr. 1-12th.
Morph. sulph. gr. 1-30th.

The iodide of iron will act as an alterative, the quinine as a tonic, and the morphia as a calmer of the nervous irritability with which these patients generally suffer.

Scirrhus of the Right Mammary Gland.—This patient, a woman forty-four years of age, the mother of two children, was brought before the class to have the breast removed. The entire mammary gland was diseased, having become a hard, shriveled mass. There was no enlargement of the vessels, and no evident adhesion to the pectoral muscle. The nipple was somewhat retracted, and the skin here and there the seat of herpetic disease.

Dr. Gross removed the tumor, carefully dissecting it from the surrounding tissues, laying bare the pectoral muscle, remarking that great care should be taken to remove every particle of the scirrhus. Silver wire sutures were used, with adhesive plaster, and the arm fastened to the side to prevent the action of the muscles on that side tearing out the sutures. Dr. Gross passed the tumor around the class, requesting them to examine it, that they might never forget the peculiar appearance of this kind of carcinoma. It was of a hard cartilaginous consistence, the cut surface presenting a peculiar semi-transparent glossiness, of a bluish white color.

Medical Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

(Reported by Wm. B. Atkinson, M. D.)

WEDNESDAY EVENING, MARCH 14.

DR. REMINGTON (President) in the chair.

Subject for Discussion—DIPHTHERIA.

Dr. HENRY HARTSHORNE opened the discussion with the following remarks:

As the subject chosen for this evening has never before been discussed at a meeting of this society, it may be well for us to review it, in the first place, in a somewhat systematic and elementary manner especially as, to some of the members, as with myself, it may have been a subject of comparatively recent study.

The name diphtheria (from διφθέρα, a prepared skin or hide) is well understood to be a modification (sanctioned, though not suggested, by Dr. Farr, the English Registrar General) of *diphtheritis*, which was introduced first by Bretonneau, of Tours, in 1826. Other appellations, by which the same affection has been, at different times and places, recognized, are, ulcus Egyptiacum, angina maligna, angina pellicularis, angine couenneuse, garotillo, putrid sore throat, pseudo-membranous pharyngitis, &c.

Very little allusion was made to this disease in medical works or journals, especially in America, within the twenty years preceding the last four or five. Some may have even supposed that a term so much in use at present, so rarely before, indicates the advent of a new disease. But a little inquiry shows that this is far from being the case. Without leaving my own study, and devoting a very short time to its bibliography, I find that quite a list of prominent authors may be quoted, who have described *pseudo-membranous inflammation of the fauces and pharyna, with or without laryngeal extension;* and this is the definition of diphtheria.

The earliest of these authors was Aretœus, of Cappadocia; probably a cotemporary of the Em-

ror Vespasian: who describes, as an Egyptian and Syrian endemic, an ulcerative affection of the tonsils, in which they were coverd with a *white, livid*, or *black crust;* and in which death mostly took place by asphyxia, preceded by loss of voice. The only other ancient writers who appear to have distinctly alluded to it, are Macrobius and Cœlius Aurelianus. In more modern Italy, Carnevale, at Naples, in 1620, and Ghisi, of Cremona, in 1740, gave account of its epidemic prevalence; the latter being the first to discern the pseudo-membranous nature of the deposit peculiar to the disease. In Spain, amongst others, Tamayo, of Madrid, described it, in 1622, giving it the name of *garotillo*. In France, it was discussed by Chomel, in 1749; by Guersent, in 1821; and by Bretonneau, in 1826—the name of the latter having been, since that time, especially identified with it. The earliest English writers, who are quoted as alluding to it, are Huxham, in 1757; Fothergill, about the same period; and Cheyne, who distinguished it from croup, 1801. To these we may add Rosen, in Sweden, 1761; Albers and others, in Germany, 1816; and, in this country, Samuel Bard, of New York, 1771; and Stephen Brown, 1828—early writers upon the disease. It would be easy to make a still longer list of more recent medical authors who have dealt with it; the principal ones are, Roche, Valleix, Grisolle, Rilliet and Barthez, Trousseau, Isambert, Bouchut, Empis and Becquerel, in France; Friedereich, Rokitansky and Virchow, in Germany; Watson, Wade, Harley, Laycock, Rogers, Simon, Bristowe, Hart and Sanderson, in England. In this country, the malady has been a less frequent visitant. I have made no attempt to ascertain what place it has had in our recent medical literature: but mention must be made of the paper of Dr. Geddings, of Charleston, S. C., (American Journal of Medical Sciences, vol. 24, p. 82,) and of the account given by Dr. Fourgeaud, of Sacramento, of a severe epidemic of diphtheria in California, in 1856-7. Drs. Wood, Condie, and J. F. Meigs, of this city, in their respective treatises, give a good account of the disease.

The principal epidemics of diphtheria have been as follows: In Rome, (described by Macrobius,) A. D. 380; in Holland, 1337; at Paris, 1376; Naples, 1618-19; in Spain, 1620-22; in Sweden, 1761; in France, in 1810—having, for one of its victims, the first-born of Hortense, the queen of Louis Buonaparte. In America, its earliest prevalence was in New York, in 1771. It has been, since 1818, often localized in France, Spain, and Germany, and occasionally in England. The most important late epidemics of it, have been those of Paris and of Boulogne, in 1855-7; and its migratory invasion of England, passing from the south-east to the north-west, from 1857 down to the present time. In this country, a few cases only attracted attention in 1857-8. During the past and present year, however, the number attacked by it, and its mortality, have undoubtedly increased much. We have direct accounts of its having prevailed extensively in New York, Albany, Newark, Lynchburg, Waynesburg, Iowa city, and many other places; the above being named, as instances, merely because immediate evidence in regard to them was at hand. In this city there has been a considerable number of cases during the past season, although it cannot be called an extensive epidemic.

Bretonneau considered the death of General Washington, and that of the Empress Josephine, to have have occurred from the croupal form of diphtheria. If we add to these that of the beautiful Stéphanie, Queen of Portugal, in 1859, and, in 1855, at Paris, of the distinguished physician, Valleix, few diseases can claim a more illustrious list of victims.

Symptoms. The *premonitory* symptoms of diphtheria are much the same in its different forms, only varying in degrees and duration. They are, languor, malaise, anorexia, *swelling of the lymphatic glands behind the jaw*, and slight sore throat.

For convenience of description, we may classify the cases, as they occur, into those of *simple, croupous, ulcerative*, and *malignant* diphtheria. All of these forms are more frequent and fatal in children than in adults.

The simple variety is at once the mildest and the most common in all the epidemics recorded. Its symptoms, described *in brief*, are, fever, headache, furred tongue, constipation, dysphagia, with swollen and red or purple tonsils, palate, and fauces; upon one, or sometimes both, of the tonsils, often as early as the second or third day of the attack, a white, or yellowish-white, pseudo-membranous deposit being seen. This deposit softens and falls off spontaneously in a few days; or it may be removed by local appliances—sometimes forming again. Its removal leaves no ulceration or abrasion of surface behind it. The duration of the whole attack is, usually, from five to nine days, and the prognosis is favorable.

The *croupous* form of diphtheria it is, that has caused the greatest number of deaths in England, and probably in this country and elsewhere. It is *especially* frequent in children—most of all after measles or scarlatina.

Following, when idiopathic, the same prodromata as those observed in the simple variety, although sometimes more violent from the beginning, a severe dysphagia comes on, with an abundant yellow, or brownish yellow, leathery exudation over the tonsils and fauces; the tissue of which, under or around the deposit, is reddened and swollen. The extension of the disease to the larynx, (which may

often take place quite early,) is marked by the usual symptoms of croup, in the *cough*, *voice*, and *breathing*, which need no description here. A fatal result takes place in very many cases, in from two to five or six days, by asphyxia; although it is not impossible for recovery to occur by the expulsion of the membrane.

The *ulcerative* form is the one which (when destructive ulceration of the palate and tonsils has occurred, with dark-colored and pulpy exudation, and some extravasation of blood, perhaps actual hemorrhage) has sometimes been mistaken for gangrene, and may have thus given rise to some of the familiar descriptions of gangrenous or putrid sore throat. At the same time, the occasional occurrence of true gangrene cannot be denied. M. Becquerel has given an account of an epidemic at the "Hôpital des Enfans Malades," in Paris, in 1841, in which many such cases occurred. The term *septic* diphtheria is applied by some writers to this type of the disease. The ulcerative is, perhaps, less fatal than the croupous variety; but it may, undoubtedly, often destroy life, or, failing in this, may leave the structure of the palate considerably impaired. Huxham described, in 1757, an epidemic of "ulcerous sore throat," occurring in Cornwall; and, curiously enough, several of the towns in Cornwall have recently been the seat of a similar ulcerative epidemic, described by Dr. Burdon Sanderson in an essay on diphtheria.[1]

The *malignant* type is attended, at its commencement, by extreme headache; sometimes by vomiting, which is uncommon in the milder varieties; and by hemorrhage from the nose, mouth, rectum, &c. Great dysphagia occurs, and enormous engorement of the submaxillary, parotid, and cervical glands. The tonsils, pharynx, and palate, are covered thickly with a yellow or brownish leathery deposit, soon becoming of an offensive odor. The tonsils may suppurate, or even slough. The nostrils are sometimes also involved. Extreme adynamia comes on at an early period, with a very rapid pulse, livid pallor of the face, and, at first, morbid heat, followed by clammy coldness of the skin; and *coma* often precedes death.

Such cases may terminate fatally in three, four or five days; occasionally in one or two; sometimes, by the potency of the constitutional impression, before the local affection had become fully developed.

Besides the symptoms which have been thus briefly enumerated, *albuminuria* is generally present in severe, and often in mild cases of either form of diphtheria. This was first pointed out by Mr. Wade, of Birmingham, England. It occurs early in the attack; is not, as has been shown by Dr. Burdon Sanderson, attended by any deficiency in the excretion of urea; and is, therefore, no indication of the dependence of the comatose symptoms, which sometimes occur, upon the state of the kidneys.

One more variety of diphtheria must be mentioned, which is less common than either of those which have just been described. It is the *cutaneous*—*i. e.* pseudo-membranous inflammation of one or more parts of the integument, connected especially with wounds, &c. This has been observed repeatedly in France, having been described by Trousseau in 1830, and again by Robin in 1847.

The *sequelæ* of diphtheria have been especially studied by Drs. Faure, Maingault, Bouillon-Lagrange, Gull, and Kingsford. They are, great and long-continued debility, loathing of food, paralysis of the soft palate, and general paralysis. In the latter, vision, deglutition, and articulation, as well as locomotion, may be involved. Death sometimes follows in a few weeks, but, in a number of instances, recovery has occurred after from two to eight months.

Morbid Anatomy.—The pellicular or pseudo membranous concretion, formed upon a highly injected and tumified surface, constitutes the anatomical peculiarity of the disease. I exhibit here a specimen of this pellicle, obtained through the kindness of Dr. J. L. Ludlow. It was taken from the tonsil of a child, a patient of Dr. Ludlow's, last night.

This pseudo-membrane has been shown to be a *coagulation* of fibrin. A remarkable observation of M. Empis, of Paris, proved its independence, after exudation, of the tissue upon which it is thrown out; viz., that it concreted repeatedly and distinctly within a tube left in the larynx after tracheotomy.

Examined minutely, the pellicle, or membrane, is found to vary from one-twentieth to one-eighth of an inch, or even more, in thickness, and to be fibro-laminated—*i. e.*, consisting of layers of net-work, sometimes including epithelial cells, and exhibiting, on its free surface, exudation-corpuscles, or pyoid globules, and granules; which forms appear to be only stages of degeneration. No process of development or organization occurs in the mass; it is *aplastic*. In some cases only a granular superficial infiltration of the epithelium is observed.

The ordinary deposit of diphtheria differs from the membrane of sporadic or idiopathic croup, and still more from the coagulable lymph of inflamed serous surfaces, in being thicker, more tough, yellower, and less capable of organization. Dr. B. Sanderson, however, found evidence of development of the exudation in one or two specimens of the simple type of diphtheria. Bretonneau, and afterwards Dr. Sanderson, *imitated* the diphtheritic exudation, by injecting an oleaginous preparation of cantharides into the throats of animals. The only observable difference between the two exudations

[1] Brit. and For. Medico-Chirurgical Review, January, 1860.

was, the absence, in the diphtheritic, of a tendency to organization, which was evident in the cantharidal pseudo-membrane.

There would appear to be, in some of the cases of diphtheria, especially in those described by the German writers, an infiltration of the tissue of the mucous membrane itself, while, in other instances, a corrosive property seems to belong to the exudation, causing a loss of substance in the parts on which it rests. This is especially dwelt upon by Rokitansky.

The intensity of the inflammatory process would hardly seem, alone, capable of accounting for the characters of the diphtheritic exudation It is more probable that they are owing to a modification of the blastema, dependent upon the general state of the blood; a view suggestive of the phrase used in the first edition of Rokitansky's great work—"fibrinous crasis." The second and third varieties of "croupous exudation (β and γ)" of that work, correspond very nearly with the descriptions of the diphtheritic deposit given by various observers. In one particular, however, a difference is notable; the German pathologist mentions, as one character of all croupous exudations, "the often slight vascularity of the diseased texture." In diphtheria the tissue of the fauces, tonsils and pharynx is always highly vascular.

The comparative history of these exudations obliges us to recognize in them an exception to the general statement of Paget, that the larger the proportion of fibrin in a specimen of inflammatory lymph, and the fewer its corpuscles, the greater the probability of its organization, and of course the less of its degeneration. The diphtheritic exudation is especially fibrinous, and characteristically prone to degeneration. We are led thus to lean more to the view of Rokitansky, which dwells with greater emphasis upon the *quality*[1] of the fibrin itself, as dependent on the state of the blood; and to bear in mind the importance of the circumstances which determine, in the corpuscles of lymph, whether they shall undergo development or degenerative change.

In regard to the *pathology* of diphtheria (as names are arbitrary, while things persist), we must ask, first, whether we are agreed to include under the term *all* affections in which a more or less tenacious concretion is observed in the mouth or throat, such as croup, aphthous inflammation, and thrush, or muguet; or whether we shall reserve the name diphtheria only for a certain special disorder, usually epidemic or endemic, and differing, pathologically and clinically, from either of the diseases to which the above names are commonly applied? Notwithstanding the confusion which has existed, in the works especially of the early French writers, upon the subject, I believe the time has fully come for adopting the latter of these alternatives. I consider diphtheria to be a special *toxæmia*, or *dyscrasia*, with a peculiar inflammation as its local manifestation; having analogy, in this respect, to erysipelas, puerperal fever, the exanthemata, etc.; and illustrating the proposition, common to many writers, but very well expressed by Paget, that "each morbid condition of the blood is prone both to produce an inflammation in a certain part, and to give to that inflammation a certain form or character."

Basing our methods of *diagnosis* upon the same principles, we must hold that diphtheria is to be distinguished from scarlatina, from croup, from thrush, and from aphthous inflammation of the fauces and throat.

Much debate has occurred in regard to its identity or non identity with scarlet fever. Without going into an argument, it may suffice to quote the testimony of a late writer in the British and Foreign Medico-Chirurgical Review, that, notwithstanding the fact that the two diseases are often associated in a remarkable manner, "*abundant evidence has now been collected in England, that scarlatina is as distinct from diphtheria as from measles or small-pox*" Diphtheria has prevailed where scarlatina has not been known for years, and mild epidemics of the one have occurred in coincidence with fatal epidemics of the other. In their symptoms, moreover, there is a clear distinction; in the *eruption* of scarlatina, and in the peculiar punctated or brick-dust-like flush of the throat and fauces, and strawberry tongue of that disease. The fact that, instead of *preventing* it, an attack of scarlet fever, as well as of measles, *predisposes* to diphtheria, is established and important.

From idiopathic inflammatory croup, as described by most writers since Home and Cheyne, *i. e.* pseudo-membranous laryngo tracheitis, we distinguish diphtheria by the following traits:

Inflammatory *croup* is a sporadic and sthenic phlegmasia; in which the constitutional symptoms are dependent, as much as in any inflammation, upon the local affection. *Diphtheria* is a constitutional disease, usually epidemic or endemic, in which the local symptoms are secondary to the general disorder.

More directly, in practice, we mark the difference between the two, in the commencement of the pseudo-membranous inflammation in the region of the tonsils and pharynx in diphtheria, instead of the trachea or larynx as in croup; and in the fact that, generally, when it invades the air-passages, the exudation does not, in diphtheria, extend to the trachea, but is confined to the larynx. At the same

[1] This is it is true, alluded to by Paget, but *parenthetically* only.

time, the symptoms resulting from such an extension are exactly those for which the designation croupal or croupous has been found the most convenient.

Vogel asserted that the *oidium albicans* of muguet was to be found in the pellicle of diphtheria; but Drs. Laycock, Harley, Rogers and others have shown that the occurrence of this parasite or of the *leptothrix buccalis* is, in diphtheria, merely accidental and far from general. Diphtheria may, moreover, be distinguished from thrush by the commencement of the latter in the mouth; by the patches of exudation in diphtheria being much larger and thicker; and by the greater severity, usually, of the constitutional symptoms attending the diphtheritic attack. Thrush is, also, much less common in adults than diphtheria; and is not epidemic.

Roche, and even Bretonneau, have evidently confounded aphthous inflammation with diphtheria. The former of these writers states that the peculiar exudation of diphtheritis (angine couenneuse) is always at first *vesicular*. By universal consent, at present, this character, with the smallness of the resulting ulcerations, and their occurrence chiefly in the mouth, and in very young children, suffices to separate aphthae from diphtheria.

Mode of propagation. The leading facts in the etiological history of diphtheria are, that it is usually *epidemic*, and that its visitations are remarkably *limited*; "acting with intensity in confined centres;" as, a small village, a crowded school, a numerous family; often inflicting therein a terrible loss; as a sort of *domestic pestilence.*

Is diphtheria contagious? Guersent, Bretonneau, Valleix, Trousseau, Rilliet and Barthez, Bard and others, have endeavored to prove that it is so. The facts they appeal to are such as these: two physicians, MM. Herpin and Gendron, were attacked by the disease, immediately after receiving on their faces a portion of diphtheritic matter coughed up by their patients. A soldier at Avignon, using the teaspoon of a diphtheritic patient, had buccal diphtheria. A boy in one of the French Hospitals, treading, barefoot, upon the sputa of a patient suffering with the disease, had pseudo-membranous inflammation of the foot. On the other hand, Trousseau failed entirely in the attempt to innoculate himself and some of his pupils with the pseudo-membranous matter; and Harley's experiments with animals were equally without result. The apparently self-determining manner of migration of the disease, moreover, presents difficulties, analogous to those connected with the history of cholera, in the way of the theory of personal transmission. So that even those who insist most strongly upon its contagiousness, are obliged to admit that its movements and invasions are by no means dependent upon such conveyance from individual to individual. It presents, in fact, a problem of great complication to the epidemiologist. The summary statement of Mr. Earnest Hart, of London, in a treatise to which I have been indebted for much information, is remarkably graphic upon the subject of its migrations.

"It visited," says he, "the open hamlets of the rural districts, and the crowded courts of the great cities. It reached the sea-side, and fell with violence upon the infant population of Boulogne. It raged alike under the intense heat of summer, and during the cold winter months. Its ravages affected equally the inhabitants of marshy, ill-drained land, and those of dry and elevated situations. Brighton has not escaped; Scarborough has suffered. It has swept across the marshy lowlands of Essex and the bleak moors of Yorkshire. It has traversed the flowery lanes of Devon, and the wild flats of Cornwall, that are swept by the sea breeze. It has seated itself upon the banks of the Thames, scaled the romantic heights of North Wales, and has descended into the Cornish mines." The only cosmic influences which appear to exhibit any promotive agency in its development, are excessive alternations of temperature, and of the barometric state of the atmosphere.

Like other zymotic diseases, it attacks with greatest malignancy those places in which public, and especially domestic hygiene are neglected or imperfect. The poor are, therefore, the greatest sufferers. But it is by no means restricted to them, or to their dwellings. The effeminating influences of luxury and indolence invite it also to the homes of the affluent; where debility of constitution appears to supply the place of a foul atmosphere as a predisposing cause.

The question which especially remains for solution is, whether there exists for diphtheria a special morbific poison, (as in the case of small-pox, autumnal fever, yellow fever, &c.,) the introduction of which into the body is necessary to the production of the disease; or, whether a *combination* of conditional causes (*circumfusa*), material and dynamic, induces it, without any such direct toxœmia, but rather as a *dyscrasia*, or diathetic affection. Having no time to dwell on this inquiry, I would merely suggest, that, in the whole range of nosology, the the nearest analogy to diphtheria appears to be presented by *erysipelas;* in the relations of which, in origin, at once to the state of the atmosphere, and to the state of the surface (and system at large,) of the patient affected, we see much that is instructive, and deserving of careful consideration. It is probable that the infection of these two diseases may be found to have a similar rationale and to be subject to the same laws of developement and prevention.

I pass, lastly, to the subject of *treatment:* in regard to which, my experience with diphtheria has not been sufficient to enable me to speak with the confidence of familiarity; as I have seen, so far, only four typical cases of the disease. I may state, however, what have been, and are, the remedies relied upon by those who have dealt most largely with it.

Watson, West, Wood, Condie and J. F. Meigs, with others, especially of the earlier writers, assert their confidence in the use of mercury, with local applications. Some of the above, and other writers, commence the treatment with an emetic; and use antimony afterwards in small or moderate doses. Bleeding from the arm, in selected cases, has been recommended by a few; leeching at the commencement, of comparatively *sthenic* cases, is advocated, and I believe with good reason, by a number of practitioners. Saline purgatives, in the early stages, are also generally approved.

But the treatment upon which the physicians of France and England have now most generally agreed, consists in the use, internally, in all forms of diphtheria, of the chlorate of potassa, and tincture of chloride of iron; and the equally important employment of strong solutions of nitrate of silver, (gr. xxx in f℥i,) or hydrochloric acid, (equal parts with honey,) or chloride of soda, (f℥i of Labarraque's liquid to f℥iv of water,) freely and repeatedly applied to the throat: with the additional use of emetics in the croupal variety, and of stimulants in the most malignant type. In the presence of high fever, in the early stage, I have thought the administration of veratrum viride, or of citrate of potassa, as a sedative diphoretic, to assist in relieving the patient, without interfering at all with the (supposed) anti-diphtheritic action of the chlorate of potassa.

In conversation, to-day, with Dr. J. L. Ludlow, it was suggested by him, that, in view of the presence of *chlorine* in most of the remedies employed in diphtheria, the use of that substance by *inhalation*, much diluted, of course, with air, might prove serviceable. He has not, however, as yet made trial of it.

In conclusion, I think it may be stated, with propriety, that the great questions still left entirely open, upon this important subject, are as follows:

Is diphtheria personally contagious, or not?

What is the exact nature of its cause or causative influences?

By what precautions may its local prevalence be prevented or mitigated?

Lastly: what is the *very best* treatment for it, local and general, in its different types and stages?

(*Discussion on the above in our next.*)

EDITORIAL DEPARTMENT.

Periscope.

Translated from the German, by O. D. PALMER, M.D., Zelienople, Pa.

The Etiology of Insanity.—Reports of the College of Physicians of Vienna, Reviewed by Dr. A. E. Fletcher.—From the report of the Royal Imperial Insane Asylum of Vienna, we learn that the institution contains from 700 to 800 patients, with a monthly accession of 60 to 77 new cases. The statistical data refer to sex, age, standing, and form of disease, without making any comparison with former reports. The most prominent exciting causes of disease in these insane, correspond with those of previous years, namely, excesses *in Baccho et venere*, masturbation, etc., among the men; excessive sexual desire, derangements of menstruation, the climacteric period, among the women. In both sexes many of the cases were caused by exciting and depressing mental affections. Tuberculosis, affections of the heart, diseases of the blood-vessels, constantly assert their particular influence; also, the diseases of the brain, that have changed from acute to chronic affections of that organ. There were found in the post mortem examinations, (in imbeciles,) particularly when the patients had been a long time diseased, cerebral atrophy, hydrocephalus, softening of the brain, the sequelia of former apoplexies, cancer cysts, adhesions, and osteophytes—yet there still remains a field for etiological research, as these same pathological conditions are found in other mental diseases. Perhaps careful and continued scrutiny, with the assistance of the microscope, may yet furnish more light to these cases. The character of the exaltations seems to be uniform in the two sexes, being in some months more pronounced with the men, whilst the women were affected, perhaps, with depression; in other months the reverse of this was the case. It is evident, therefore, that these mental conditions were not the result of atmospheric influence, as this would affect both sexes alike. The cause must be looked for, perhaps, in the genius of the disease. In one inebriate imbecile there was found, together with a fatty, voluminous liver, and a chronic catarrh of the stomach and bowels, a thickening of the meninges of the brain, with œdema, softening of the walls of the ventricules, and septum. In another imbecile was found, ossification of the

sinus of the falx. In a third, the remains of apoplectic symptoms and adhesions; in a fourth, hydatids at the base, resting on the *lamina cribrosa*; in another simpleton, the sinus of the falci-form process was obliterated in the middle of the partition between the hemispheres; in one affected with paralytic imbecility, the substance of the brain was leathery, dry, and tough, in parts œnemic; in other idiotic subjects, atrophy, particularly of the anterior portions of the brain, was present, together with hydrocephalus. How dissimilar soever may appear the cases here assembled, particularly those affected with idiocy, each exerted its special influence over the functions of the brain.

In one case, where a lunatic had alternated between the greatest anxiety and the most torturing fear and terror, the dissection table exhibited a fatty degeneration of the whole substance of the heart. In a case where death was the result of typhus, as soon as the typhus mass commenced to be deposited into the alimentary canal, all symptoms of the mental affection vanished. In one case, the insanity supervened simultaneously with the disappearance of an eruption of shingles. This may have been accidental, or both affections may have had a common origin. After an ether-narcosis, six times repeated at short intervals, in one case, great irritability was produced; the patient gave herself up to masturbation, then to prostitution—finally, there was developed an insane excitement. In different cases, *atropin* was brought into use as a remedial means. In a case of exaltation, with fixed ideas, where were present considerable congestion, headache, vertigo, dilatation of the pupils, one-forty-eighth of a grain of atropin was administered every second day, and effected a cure. It likewise produced relief in the case of an epileptic, having, as a complication, an exaltation of ideas; and also in a third, where the epileptic received monthly attacks of mental alienation. In nine other cases of epilepsy, the atropin was administered without effect.

Night-blindness was frequently observed among the insane in the spring, especially in April. In other years, the same state of vision has been remarked.

One case of alienation of mind deserves a special notice. A man, aged fifty-six years, was attacked but a few days before his reception into the institution; and on the third day following, he died, with symptoms of paralysis of the brain. Autopsy showed this last to be affected with tuberculosis. This seems to prove that the sensorium may be a long time subjected to this process, without resulting in *psychosis*, until the physical or mental life is reacted upon by some accidental influence. The results of section in others exhibited the formation of masses, similar to those of cellular matter, and the conversion of the cerebral fibres and the ganglionic cells into complications of *colloid* and *amyloid* bodies.

From the observation of these cases in the institution, two groups of mental diseases were formed: those in which the alterations of the brain proceeded from the blood-vessels, and those in which these were not implicated; in both cases these alterations were generated in separate parts, or in the whole mass of the brain, and sometimes even the spinal marrow and cerebral nerves were also included.

This grouping was of much importance in furthering a knowledge of the local pathology and the functions of the brain. In the first division, the atheromatose process is the primary cause, and the altered nutrition of the brain the secondary; in the second division, the etiological action was not so certainly established, though it would appear that the alcoholic imbibation of the brain on the one side, and the irritability of both brain and spinal marrow, produced by sexual excesses, on the other side, and especially the combined action of the two evils, most frequently cause the sensorial manifestation—at least the morbid alterations are almost always generated in those cases in which the subjects have for a long time indulged to the greatest excess in the *feats of Bacchus and Venus*, and where this has afterwards caused an affection of the mind, it arrives to an outburst of insanity in its different and various forms.

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Dr. Todd on Acute Disease.—In the last volume of his Clinical Lectures, Dr. Todd thus expresses his conclusions: "That the notion so long prevalent in the school, that acute disease can be prevented or cured by means which depress and reduce vital power, is fallacious. That disease is cured by natural processes, to promote which, in their full vigor, vital power must be upheld. Remedies, whether in the shape of drugs which exercise a special physiological influence on the system, or in whatever form, are useful only so far as they may excite, assist, or promote, these natural curative processes."

Mr. H. W. Porter, in a paper read by him at a late meeting of the Institute of Actuaries, entered into some curious considerations concerning the hereditary transmission of phthisis, supporting his statement by statistics from the Hospital for Consumption at Brompton. Some curious illustrations were adduced from the experience of breeders of animals. It was shown that there was abundant evidence to prove, that in the case of horses, mules, sheep, pigs, and fowls, the female retains traces of the influence of a prior impregnation, and transmits them to a second, third, and even fourth progeny. The well-known case was mentioned in which a quagga, in the possession of Lord Morton, was allowed to breed with a thorough-bred chestnut mare. The produce was a quagga having the stripes, and in many respects the characteristics of the male parent. The next season the same mare was allowed to breed with a black Arab horse, and the result was, to the astonishment of the owner, a foal bearing strongly the marks of the quagga, and this effect continued to be visible through three successive foals produced by horses. It was also shown, that a prior impregnation need not necessarily have resulted in the production of progeny, in order that evidences of it might be transmitted to a subsequent generation. Arguing from the analogy of animals, the author considered that the desirableness of marriage with a widow whose husband had died of phthisis or other hereditary disease, might perhaps be questioned, whether from the above consideration she had borne children to her first husband or not. Of course if she had, and phthisis had shown itself in them, the case would be stronger. The author was of opinion that it is possible in this way to account for some of those sad and inscrutable cases which we find happen occasionally, in which phthisis comes on suddenly and unexpectedly, without our being able to trace either hereditary tendency to disease, or to find any reason to account satisfactorily for the origin of the affliction. We need scarcely say that these views, however interesting they are, require much confirmation before they can be accepted as true.

Comparison of the Fatality of some of the Diseases of London now and in the Seventeenth Century.—The Medical *Times and Gazette* copies the following from the report of the Registrar General: The diseases were not always distinguished accurately; but by putting them in groups, any fallacy from this source will be obviated, and the decrease of some of the worst forms of mortal disease will be placed beyond doubt. To render the comparison easy, the number living is taken to be the same in the two periods, 100,000 in 1660 and 1679 and in 1859. The annual deaths by small-pox were 357 in the first period, 42 in the second period; by measles 40 and 47 in the two periods. Medical science was imperfect, and the science existing in that century was very imperfectly applied. Croup and scarlatina were not generally recognized, but were confounded with measles and fever. The mortality by fever, continued or remittant, and ague was at the rate of 749 and 59 in the two periods; or including scarlatina, quinsy, and croup, the mortality was 759 and 227. Thus a person was in four times as much danger of dying of these diseases at the Restoration as a person living in London now. Women are not yet entirely exempt from peril in childbearing; the mortality by that disease is now 17, it was then 86. Again a few (8) in 100,000 die now of dysentery; then out of the same number, 753 died annually of that disease. By diarrhœa, a milder form of disease, 11 died then, 120 die now; cholera was fatal in 1859 to 7, and in the 20 years (1660–79) to 130 annually. Syphilis was twice as fatal as it is, the numbers being 21 and 12. Scurvy and purpura bear testimony to the imperfect nutrition of the population; the annual deaths were then 142 and are now 2. Vegetables, fruit, and fresh meat, could with difficulty be procured in winter. Worms and all parasitic creatures that crawl over, bite, and prey on the body of man, were prevalent; 10 deaths were ascribed to worms. Dropsy, a result and sign of scurvy and fever, was exceedingly fatal; 298 died of that disease then, and 26 now. Apoplexy, paralysis, epilepsy, affections of the brain, and suicide, are more fatal now, according to the returns, than they were, in the proportion of 57 then to 151 now. Consumption and diseases of the breathing organs were uncommonly fatal; 1079 then and 611 now are the figures of the mortality. Diseases of the digestive organs were fatal then and now in the proportion of 146 and 95. Stone and diseases of the urinary organs are now as fatal as they were then; the deaths being 21 and 30. Children were rapidly cut down; of convulsions and teething 1175 died then, 136—too many—now.

Sudden Death while under the Influence of Chloroform.—The following is reported in the New Orleans *Med. News and Hospital Gazette*: An Irish laborer, aged thirty-two years, sustained a serious injury by falling into the hold of a ship; his pelvis was fractured, and examination being very painful, chloroform was administered; while under its influence the patient died. An autopsy showed perfectly healthy lungs, but all the cavities of the heart were full of uncoagulated venous blood; the valves were sound. On removing the calvarium, the dura mater was found much congested, and presented a dark spot over the right hemisphere. A large clot of coagulated blood was found between the dura mater and arachnoid. About three ounces of serum were collected at the base of the skull. None of the liquids or solids of the body presented any odor of chloroform. Some interesting and important remarks are made by Dr. Austin Flint of the N. O. School of Medicine, in reference to this case. It seems fair to attribute to the chloroform a certain amount of agency in the sudden death, although the appearances found at the autopsy would be regarded as sufficiently accounting for sudden death, had no anæsthetic been administered. It may reasonably be supposed that pathological conditions incident to the injury of the membranes of the brain were, in fact, the occasion of death, and that its occurrence, while chloroform was being administered, was simply a coincidence. It would be unfair to consider this case as one of those in which death is due exclusively to the effects of chloroform. These effects were fatal in conjunction with a considerable amount of meningeal extravasation, together with the general shock from the injury which the man had sustained.

The case, now reported, suggests an instance of death occurring under the influence of sulphuric ether in a man to whom it was administered in order to relieve a paroxysm of intense pain in the head. On examination after death, no disease was discovered to account for death, save a tumor in the cerrebellum of considerable size. Did death occur from etherization or in consequence of the presence of this tumor, or did the existence of this tumor render the administration of ether peculiarly dangerous? There are cases cited of sudden death, in which the existence of cysts in the cerebellum was the only cause of death revealed by the scalpel, no anæsthetic agent having been administered. These cases suggest the idea that cysts in the cerebellum are probably a more common cause of sudden death than is generally supposed.

The experience of Prof. Dalton, and others, in the use of chloroform and ether, in experimental illustrations of physiology by vivisections, is not without importance in estimating the comparative safety of these two anæsthetic agents in medical and surgical practice. The risk attending the use of chloroform upon animals, given sufficiently to render vivisections painless, is a serious obstacle in the way of successful experimentation. On the other hand, sulphuric ether may be administered as freely as required, with comparatively small risk of destroying the animal.

A New Theory of Phthisis.—A book of four hundred pages has just been published in London, with the title of "*Consumption, its True Nature and Treatment, by Godwin Tims, M. D.*" The following paragraph gives the author's pathological views:

"The morbid condition which constitutes consumption, and which results in the deposit of tubercle, is an exaggerated activity of that part of nutrition called destructive assimilation, by which more atoms of nutrition are broken down, dissolved, and absorbed into the blood, than can be expelled by the excreting organs, until the blood has become so laden with the *débris*, or *debritus*, of the textures as to precipitate and deposit it in the form of tubercle in favorable locations."

The treatment deduced from this view is what the author calls "the combined treatment," with opiates, purgatives, animal oils, and emetics, aided and stimulated by change of air, etc. When the course of the disease appears too rapid to permit success by these means, some more active measures, such as bloodletting, must be ventured on.

He remarks that "venesecton must cease to be a bugbear in the treatment of phtisis, before success will attend the treatment of consumption."

The Inhumanity of French Surgery.—Not long since we reported a terrible operation by a French surgeon, for the removal of the entire tongue with the ecraseur, and during which no anæsthetic was administered. The Paris correspondent of the *Lancet* gives an account of an operation of equal severity, which, from its probably unjustifiable character, the helpless age of the sufferer, and the fact that his pangs were not attempted to be relieved by an

anæsthetic, is, we think, a disgrace to the surgery of the age.

"At the Hôpital St. Eugénie, I witnessed, last week, a resection of the right superior maxilla, by Mr. Margolin. The patient was a boy aged six years and a half, affected with fungus hematodes. Velpeau's method was employed, which consists in making the incisions from the angle of the mouth up to the malar bone. A chain saw was then introduced through the posterior nares, and the diseased bone sawn across below the inferior orbitar foramen; the other osseous attachments were resected by means of a small handsaw. The operation lasted twenty minutes. There was not much hemorrhage, but the poor child expired upon the operating table—I think, from the shock. He cried very much before, and struggled much during the operation. No anæsthetic was employed!"

This is the style of operation which the French report as "*successful,*" and the result —"*died cured!*"

Illuminating Tubes. — The Academy of Medicine have now under consideration "The Artificial Illumination of the cavities of the Body by the aid of Luminous Tubes." It is the device of two Germans—"MM. Th. du Moncel et Ruhmkorff"—and consists of an electric light, which may, by means of tubes, be transmitted into the recesses of the mouth and throat, vagina or rectum. The practical application of it in the vaginal tube was exhibited last week in the service of M. Becquerel, at La Pitie, who was pleased with it, and expressed much satisfaction with the increased facility it affords in these examinations. M. Cl. Bernard is upon the commission having the matter in charge, and will probably soon report the result of their investigations to the Academy, when we shall have more light upon the subject.—*Atalanta Med. and Surg. Journal.*

M. Velpeau's Report on Coal-Tar as a Disinfectant.—The Academy of Sciences having appointed a committee composed of MM. Chevreul, Cloquet, and Velpeau, to consider the claims of MM. Corne and Demeaux's preparations of coal-tar and plaster as a disinfectant, an extensive series of comparative trials between it and other substances was instituted at La Charité, and M. Velpeau has recently presented to the Academy an elaborate report on the results. The general conclusions are—1. That coal-tar, mixed with plaster, disinfects putrefying organic matter. 2. In its therapeutical applications, it has only realized a portion of its promises. As a disinfectant in the autopsy-rooms, (upon this point, even in the hottest weather, M. Velpeau speaks in the strongest terms,) in the beds of dirty patients, and wherever there are infected matters, its properties are indubitable. The same may be said for putrid and gangrenous discharges, fetid suppurations, sanious wounds, ichorous caverns, and hospital gangrene; but, with respect to open wounds and ordinary ulcers, other topical applications are preferable. 3. Employed with charpie, linen, ointments, cerates, or taken internally, it has furnished no useful result. 4. As an absorbent, especially used as a cataplasm, it acts very indifferently. It must be remembered that abnormal liquids, especially pus, are very different compounds to water; and plaster, which exerts great absorbing power on the latter, may imbibe but very little pus. Still, whether in powder or cataplasms, the compound may render some service, even as an absorbent, in fetid or putrid suppurations. To secure the good effects of the coal-tar and plaster, certain precautions must be taken, the neglect of which may probably explain the entire inefficacy this mixture has exhibited in the hands of some experimenters. It is fine modeling plaster, and not common plaster, which should be employed; and the coal-tar, or carburetted oils, in the proportion of from two to four per cent., triturated with it, should impart to it a grayish color, while leaving its dry and pulverulent quality. Anatomical parts, to be disinfected, should be rolled in this powder, so as to bring it in contact with all parts at heir surfaces. Gangrenous or putrid sores, must be covered by thick layers, laid on in handfuls several times a day; and, in the case of blood, pus, dejections, etc., enough must be put on to form a kind of paste, replacing the layer of powder by a new one, when it no longer absorbs. Mixed with white oil into a thick state, it may be applied as a cataplasm.—*Med. Times.*

Determining the Shortening in Fracture of the Femur —In a letter from Paris, in the *Atlanta Medical and Surgical Journal,* from Dr. Battey, is an account of a new method of measuring the length of the limb in fractures of the femur, which seems, we think, more mathematical than surgical. M. Dashetta

assumes, which for practical purposes is true, that a line drawn from the anterior superior spinous process of the ilium to the centre of the tuberosity of the ischium, will bisect the asetabulum, and this line he takes for the base of a triangle. The other two sides are determined by measuring the distance from the inner condyle of the femur—first, to the anterior superior spinous process, and then to the tuberosity. These measurements are made upon both limbs, and, by comparing the two triangles thus obtained upon established geometrical principles, he arrives at the absolute difference in the length of the limbs.

Ligation of the Femoral Artery for the Cure of Elephantiasis of the Leg.—Dr Ogier, of Charleston, reports the apparent cure of a case of elephantiasis by ligation of the femoral artery. At the time of reporting, three months after the operation, (too soon to report a *cure*,) "the leg and foot had subsided to nearly the natural size."

This operation was original with Dr. Carnochan, of New York, who reports four successful cases in one of the faeciculi of his "Contributions to Operative Surgery." We are aware that one of these reported cases was an entire failure, the patient having died in the wards of the Philadelphia Hospital nearly one year ago. While in that institution, his leg was the most enormous specimen of disease which we have seen.

Alcohol the Panacea.—The following passage from Dr. Todd's last volume of Clinical Lectures, shows how his mind was tending toward universal stimulation in the treatment of disease: "Alcohol may be administered in all those diseases in which a tendency to depression of the vital powers exists; and there is no acute disease in which the lowering tendency is not present."

Relief of Deformity of the Face from Paralysis.—All of the muscles on the sound side, the contractions of which produced the deformity, were divided by a tenatome. The forefinger was first introduced into the cheek of the contracted side; the muscles were then made tense, and the knife introduced from without inward toward the finger, dividing the muscles at fault, care being taken to avoid wounding the facial artery and its largest branches. In this manner, by two introductions of the knife, the levator labii superioris, the levator anguli oris, and the zygomatici major and minor were divided. A great improvement at once resulted; but some contractions still continuing after the operation, an interval of some weeks was allowed to elapse, when the depressor labii inferioris and depressor anguli oris, with some muscular fibres still acting abnormally, were divided.

Reviews and Book Notices.

Annual Address on the Events of the Year. Delivered by appointment, February 22, 1860, according to the by-laws of the Philadelphia County Medical Society. By BENJAMIN HORNOR COATES. At the legal cessation of the Presidency for the succeeding year. Published by order of the Society.

The address is characteristic of the profundity of the lecturer in medical science and literature. Dr. Coates is so replete with learning of all kinds, that he seems unable to present one theme without being overwhelmed with collateral matters, which he is unable to keep out of his discourse. After having read such an essay as the above, the reader having been really much edified and instructed, is inclined to turn back to the title page to ascertain what most particularly has been the object of the lecturer to impress.

One of the "events" on which the mind of the late president is still morbidly sensitive, is the secession of a small fraction of the members of this still unwieldly large scientific and representative body, but which, judging from other "events of the year," does not seem to have interfered with its general efficiency; and regretted as such events as may be, the histories of most medical organizations show them to be very liable to dissensions and extreme mutations.

Dr. Coates has, in the following paragraph, made a very palpable hit at the reason why, in societies, so frequently "doctors disagree:"

"It is not, in the usual course of things, that a general body, representing the whole medical profession, can hold its meetings without sometimes incurring vehement, and occasionally stormy struggles. The life of physicians is a hard one. Their primary studies and habitual pursuits tend to the same exaltation of nervous sensibility which has so proverbially given to the poet, the painter, and other cultivators of the finer senses, the opprobrium of "irritabile genus." City practitioners are deprived of the tonicity engendered by habitual riding and mountain air. Trained by profession to philanthropy, they

are thrown upon worse than the hardships of trade. Insulated from the rest of mankind by the mode of spending their hours, educated differently, having, in large numbers, chosen their profession from the very motive of a fixed dislike to the ordinary modes of acquiring money, a dislike which frequently arises from an apprehension of moral meanness supposed to be mixed with them, hated for a superiority in real worth, which even their enemies and those of the community feel, they are the constant mark of small fraud and petty or even deeper malice from without. At the same time, within the profession, each practitioner is aware of the exertions and sacrifices which he has himself made, while he cannot, in reason, be supposed as well acquainted with those of another; and hence the result, so natural to man, of adding to his own claims and setting too light an estimate upon those of his competitor. How is it possible, in such a situation, to avoid the production of jealousy?"

An Epitome of Braithwaite's Retrospect of Practical Medicine and Surgery; in Five Parts, by WALTER S. WELLS, M.D. Published for the Author by C. T. Evans, New York.

These parts have followed rapidly after the appearance of the first. We have already expressed a favorable opinion of the object of the Epitome and of the general manner in which it has been accomplished. The work has been favorably received by the profession in this city, and a fair list of subscribers obtained.

It is of value simply as a full index to Braithwaite. A more extensive reference from it would have been gained, and its usefulness been much increased, if the authority to which the original abstract in Braithwaite refers were given It is remarkable that the name of the author of the article is also frequently omitted.

One of the objects of the compiler, "to enable the practioner to refer at once to the modern treatment of disease," will not accomplish much real good. The volumes of Braithwaite are, in themselves, little more than an epitome, and these concentrated abstracts can say little more in regard to treatment than mention the disease and the remedy; and a treatment deduced from such reference is inclined to be empirical.

THE MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, SATURDAY, APRIL 21, 1860.

THE HIGH RATE OF MORTALITY IN CHILDREN OF FOREIGN PARENTAGE.

City Registrars are not sufficiently attentive to the fact, that there is a wide difference between the mortality of children of Americans and Foreigners. In their reports, they should always make a distinction between the deaths of children of Natives and Foreigners. The result would show, that not only is our mortality very largely increased by the deaths of the foreign-born portion of our population, but by those of their offspring also, consequent on the degradation, filth, and poverty, that prevail to so large an extent among this class.

Dr. Snow, City Registrar of Providence, R. I., has often called attention to the importance of making this distinction in mortality reports, and the following extract from his report of the mortality of that city for the month of March, affords a very striking illustration of the difference between the death rates among the children of native and foreign-born parents:

"Of the whole number of deaths among children in March, 31 were of American and 49 of foreign parentage. Of the 31 persons of American parentage, 6 *only*, or 19.6 per cent. were under 5 years of age. Of the 49 persons of foreign parentage, 26, or 53 per cent. were under 5 years."

PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION.

The Transactions of the American Medical Association for 1859 do not form as bulky a volume as some of its predecessors, but it contains some important papers, which give it a special value. We would particularly designate the Report on the Epidemics of California, by Dr. Thomas M. Logan, of Sacramento, and the elaborate paper, to which was awarded the prize of the Association, on Some of the Physical, Chemical, Physiological, and Pathological Phenomena of Malarial Fever, by Dr. Joseph Jones, of Augusta, Geo., as giving evidence of great labor and research.

These annual volumes are sometimes made the receptacle of very indifferent matter. The time must come, however, when a change of policy in regard to the contents of the work will have to be adopted. Reports relating to the medical history of the country for the year should always be a feature of the work, and these reports should be as comprehensive as possible, and include all sections of the country. And then, there will always be other special reports which will necessarily form a part of the published proceedings. But monographs on special departments of medical science, which are called forth by the influence of the Association, might better be published under its sanction, in separate volumes, for the benefit of their authors. In this way, those disposed to labor in the cause of medical science could be encouraged to do so under the sanction of the profession of the country, as expressed through the Association. To obtain so respectable an endorsement, authors would, undoubtedly, labor to render their works as original and valuable as possible. Thus a medical literature would grow up under the fostering care of the Association of which we might be justly proud, while the profession would be protected against a worthless literature.

A likely correspondent likely to be accommodated.—We extract the following from a letter recently received: "I like your journal, and like the 'fair-play' style in which it is conducted. I like your editorials. They have the right ring of the right kind of metal, and I would like my name on your subscription book."

——o——

Antiquity of compressed Sponge.—Many of the uses to which compressed sponge has recently been applied were practiced during the last century. The following directions for preparing sponge for dilating sinuses is given in an old volume by John Jones, M. B., published in 1797:

"Dip it in water, wring it out, and then wind it about with pack thread as tight as possible; the sponge then to be cut off as wanted, letting the thread remain on the rest of it."

News and Miscellany.

Dr. Windship, of Boston, gave a lecture on Physical Culture on Friday evening, the 13th instant, and, after the lecture, presented some wonderful illustrations of what may be accomplished by systematic exercise in the acquirement of strength. He is believed to be the strongest man in the world, and there is no record of his feats ever having been exceeded. The muscular powers of such as Zopham, the Belgian giant, and others, were inferior to his, and their performances were far short of what is with ease accomplished by this gentleman. This is more remarkable from the fact, that, in appearance, he does not present any evidence of such remarkable physical abilities, being but twenty-six years old, five feet seven inches in height, weighing one hundred and fifty pounds, and exhibits apparently no more muscular development than is frequently possessed by ordinary gymnasts.

The address was of a popular character, and presented nothing novel. The nervousness and uneasiness of the lecturer, and his frequent complaints of inability to proceed, on account of want of fresh air in the room, while every one else seemed very comfortable, showed a singular want of endurance, which did not argue much in favor of "physical culture" in the manner practiced by him.

The illustrations were certainly fairly executed, without the deceptions which are often practiced at gymnastic exhibitions. He proceeded first to raise, with the hands alone, eleven hundred pounds in the form of ten kegs of nails, which, with the appurtenances for fastening them together and grasping, weighed that amount. This seemed to be to him no very extraordinary effort, and he stated that he has frequently lifted in the same manner twelve hundred and thirty pounds.

Although this enormous weight is stated to be raised by the hands, it is evidently effected by the action of the gluteal and other powerful muscles, which, when the body is bent forward, return it to the vertical line, while the hands and arms merely *suspend* the weight.

A barrel of flour, weighing two hundred and seventeen pounds, was handled by him and placed on his shoulder, and he remarked that he was practicing with this unhandy and weighty bulk by holding it on one hand.

He exercised freely with dumb-bells weighing each one hundred pounds, and raised per-

pendicularly, at arm's length, one dumb-bell weighing one hundred and eighty pounds.

The lecture was followed by some athletic performances by proficient gymnasts from the establishment of Messrs. Hillebrand and Lewis, at the corner of Ninth and Arch streets.

Dr. Windsbip is expected to return to this city soon, to give a lecture with similar illustrations.

A Medical Prize of two hundred and fifty dollars, as will be seen in the following letter, is offered by Dr. O'Reilly, of New York:

"To the medical students of the United States of America:

"I will give a premium of $250 for the essay, which shall be judged the best by competent judges, on the Anatomy and Physiology of the Animal and Organic Nervous Systems.

"The essays to be sent to me on or before the 1st of March, 1861.

"I will likewise give a second premium of $250 for the best essay on the same subject. The essays to be handed in on or before the 1st of March, 1862.

"The medical students who shall be declared the successful competitors, will be required to declare on their 'word and honor' that the essays are their own productions, and that they have not been assisted by any legally qualified medical men.

"JOHN O'REILLY, M. D.,
"230 Fourth street."

The regular Annual Meeting of the District Medical Society for the County of Cumberland was held at Bridgeton, N. J., on Tuesday, April, 10, 1860. The following officers were elected for the ensuing year: President, Dr. Ephm. Bateman, of Cedarville; Vice-President, Dr. Joseph Sheppard, of Bridgeton; Secretary, Dr. Wm. Elmer, of Bridgeton; Treasurer, Dr. N. R. Newkirk, of Bridgeton. Dr. E. E. Bateman, of Fairfield, and Dr. E. Fithian, of Greenwich, were chosen Delegates to the American Medical Association, to convene in New Haven in June next. Dr. Ephraim Bateman, of Cedarville, was appointed Reporter, from this county, to the New Jersey State Medical Society.

An Obelisk to the Memory of Sir James McGregor has been erected at Aberdeen within the walls of Marischal College.

We understand that it is in contemplation by the profession of this city, to pay our distinguished townsman, Dr. George B Wood, the compliment of a public dinner previous to his departure for Europe.

The New Hospital for the Paralytic and Epileptic was opened in London last month, under the following management: Dr. E. Brown Séquard, and Dr. J. S. Ramskill, Physicians; Wm. Ferguson, Esq., F. R. S, Consulting Surgeon; and J. Z. Lawrence, Esq., M. B. D., F. R. C. S., Surgeon.

Births and Deaths in Russia in 1857.—The following statistics, taken from Russian journals, we copy from the *Medical Times and Gazette:*

"Throughout the Russian empire there were born 2,993,101 children; 1,533,408 males, and 1,459,693 females; and the deaths amounted to 2,010,736, viz, 1,014,574 males, and 996,162 females. Of these, 1,003,662 children died prior to the age of 5 years; and between the ages of 5 and 10, there died 100,014—each sex contributing nearly equally its contingency in both categories. With respect to very aged persons, the following extraordinary figures are given in the official reports, and resemble those which have appeared in the former annual reports. Either some gross error must exist, or Russia is the country, *par excellence*, for longevity. Between 100 and 105 years, 255 persons (140 men and 115 women) died; between 105 and 110 years, 108 (68 men and 40 women); between 110 and 115 years, 38 (25 men and 13 women); between 115 and 120 years, 25 (13 men and 12 women); between 120 and 125 years, 8 (4 men and 4 women); between 125 and 130 years, 4 (2 men and 2 women); and between 135 and 140, 1 man."

During 1858, the births and deaths in St. Petersburgh were as follows: In St. Petersburgh there were born 17,685 (9,174 male, and 8,511 female) children, while there died 19,077 individuals. This is but the repetition of an annually recurring fact, that the deaths so considerably exceed the births; that the population of the capital is only kept up by immigration. The proportion of illegitimate children, too, is on the increase, and the number of marriages on the decrease.

In Moscow there occurred, in 1858, 11,267 (5,822 male, and 5,445 female) births, and 11,703 deaths.

The Poetry of Heating Cautery Irons.—A Parisian letter to a cotemporary medical journal, thus æsthetically describes this process: "On the left of the door as we enter the female wards, stands a charcoal furnace, glowing with its pent-up caloric of highest intensity, and supporting upon its hearth the handles of certain potential instruments, whose clubbed extremities nestled in the fiery bath of ignited carbon, imbibe to saturation the fervent heat!"

Dr. Marion Sims.—Dr. Westmoreland, of Georgia, writes thus of this eminent surgeon: "I regard him as one of the greatest men of the age, and one who has certainly done more for the advancement of the surgical art than any man of his day."

The new Obstetrical Society of London is attracting much attention in Europe. The discussions are conducted with great spirit, and are of the highest scientific interest. At the last meeting, March 7th, acceptances of Fellowship from Professors Scanzoni, of Vienna, and Meigs of this city, were read.

Extensive Operations for the Cure of Neuralgia.—Dr. Carnochan, of New York, whose surgical feats are very apt to find their way into the newspapers, has lately had a case that taxed his utmost skill and ingenuity. The patient had, for more than ten years, been a martyr to the most excruciating facial neuralgic pain, had been a patient in the New York Hospital, and been subjected to every variety of medical and surgical treatment. No less than *fourteen* surgical operations were performed on his face, by different surgeons, one of them by the venerable Dr. Valentine Mott, and six of them by Dr. Carnochan. In his first operation Dr Carnochan laid open his face, trepanned the maxillare, separated the trunk of the second branch of the fifth pair from its connections as far as the posterior part of the antrum, and exsected about an inch of the nervous trunk This was followed by instant relief, and the patient was able to follow an active business for a year. At the expiration of this time, however, the pain returned, and the patient again sought Dr. C., who performed five more operations on him. The last, which promises to be successful, consisted of an exsection of the remaining stump of the trunk, close to the foramen rotundum, in immediate connection with the ganglion of Meckel, thus insulating that ganglion and its branches from the encephalon.

One hardly knows, in this case, which to admire most, the bravery and fortitude of the patient, or the boldness and confidence of the surgeon.

Answers to Correspondents.

Ayer's Ague Cure.—A correspondent in Georgia sends us a lithographed circular with which that pretentious quack, Ayer, is flooding the malarious districts of our country. We copy the circular, with comments upon it by our friend, Mr. J. M. Maisch, a chemist and pharmaceutist of this city.

"We make no secret remedies, but publish the composition of those we prepare, yet it is impracticable to give clearly the formula of our 'Ague Cure,' because its chief ingredient is a newly discovered substance not yet *named or known to the profession*.

"This substance is produced by destructive distillation of the bituminous bases, and bears the same atomic relation to quinine that grape does to cane sugar.

"It is found to be a more effectual febrifuge than quinine, without the deleterious properties that quinine sometimes exhibits.

"This semi-salifiable product, combined with piperine in menstrua, is the compound we furnish as 'Ague Cure.'"

The circular in question is full of chemical nonsense, and evidently either written by one who has not learned or digested the first principles of organic chemistry, or simply designed for persons who do not mind being duped by any scientific (?) assertion, which is as incomprehensible as the medicinal activity of most of the so-called *popular* nostrums.

1. "*The bituminous bases.*" No such compounds are known in chemistry. Most likely, the artificial bases are meant here, which are formed on the destructive distillation of nitrogenized organic bodies. These volatile—for they have been distilled—bases are composed, without exception, of only three elements, C. H. N.; at ordinary temperature, they are all either gaseous or liquid, or when solid, fuse at a temperature considerably lower than the quaternary alkaloids.

2. "*Destructive distillation*" of these bases is impossible, on account of their ready volability.

3. "*The atomic relation of grape sugar to cane sugar*" is an excess of 3 H O; the former being C12, H12, O12 + 2 H O, the latter C12, H10, O10 + H O; and in accordance with the assertion of Ayer's circular, this new substance ought therefore to contain 3 H O more than quinine. Now, it is an established fact, that by destructive distillation organic bodies are decomposed into *more simple compounds*, into compounds more approaching to HO, NH3, CO2, the three links between organic and inorganic combinations. How it is possible that a ternary base will by destructive distillation (?) yield a semi-salifiable (!) product, which is a *quarternary* compound, and one of such high atomic weight as quinia, will go beyond the conception of any man who has an idea of chemistry. Morphia, narcotina, codeina, quinia, cinchonia, strychnia, and in fact nearly all the quarternary alkaloids, yield *ternary alkaloids*, the SAME which are also obtained by destructive distillation of wood and coal. (See Parrish's P. Ph. 392, 4 a. b.)

The chemistry of this circular is sufficient, I should think, to put it down as a humbug.

Dr. McK., Illinois.—Enclose $3.40 to Lindsay & Blakiston of this city, and they will forward Hamilton on Fractures by mail, prepaid.

COMMUNICATIONS RECEIVED.—*Delaware*, Mr. Obed Bailey—*Georgia*, Dr. T. K. Humphries—*Illinois*, Dr. Charles White, Dr. P. Gregg, Dr. Wm. McKnight, Dr. E. F. Ellet—*Indiana*, Dr. I. D. Glazebrook, (with encl.)—*Iowa*, Dr. D. Beach, Jr, (with encl.) Dr. J. M. Adler, Dr. I. Langer—*Kentucky*, Dr. Junius O'Brien,